

Cedar River Instream Flow Commission

Final Minutes

SPU Water Quality Lab

April 7th, 2010

Organizations/Members Present:

- Seattle Public Utilities -- Tom Fox, Rand Little, Karl Burton
- King County Dept. of Natural Resources and Parks -- Steve Hirschey
- U.S. Army Corps of Engineers -- Larry Schick, Lynne Melder, Ken Brettmann
- US Fish and Wildlife Service -- Tim Romanski
- Seattle City Light-- Liz Ablow
- Muckleshoot Indian Tribe -- Holly Coccoli
- NOAA Fisheries -- Tom Sibley
- Washington Department of Ecology -- Jay Cook

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- I. Call to Order:** Tom Fox called the meeting to order at 9:40 AM.
- II. Approval of Agenda:** The agenda was approved after adding a time period for the USACE regional water manager, Ken Brettmann to talk with the IFC.
- III. Approval of Draft Minutes:** Holly said that her last name needed a spelling correction in the most recent minutes. After that change, the March minutes were approved as final.
- IV. News and Notes:** Jay said that Governor Gregoire vetoed the part of Water Bill 6667 that exempts water claim holders from review to drill replacement wells. Tom said that the Army Corps had given an exemption to SPU for the permit to dredge 400 cubic yards of sediment in the channel between Chester Morse Lake and Masonry Pool. The work should commence in mid-August and is expected to reduce the elevation of the highest points on the channel bottom down to approximately elevation 1532'. SPU plans to use a special clamshell bucket that is designed to keep silt from getting in the water column during dredging. SPU needs the reservoir elevation to be between 1554' and 1558' to begin work. Tim asked if SPU has any documentation of the clamshell bucket they intend to use. Tom said that he would get the documentation from SPU engineers and provide it to the IFC.

Tom invited the IFC to come to Chester Morse while the dredging operation was ongoing and assess the effectiveness of the efforts to minimize sediment in the water column. Steve said that a King Co. sponsored Reclaimed Water Comprehensive Plan Workshop was coming up on April 29th. The workshop will deal with the County's efforts to implement the plan. The target audience for the workshop is King Co. citizenry and professionals in the water supply arena.

V. Real Time Water Management:

Hydrologic Conditions for Tolt and Cedar: Tom said that the recent precipitation caused a bump in reservoir inflows but not a large one because some of the precipitation came in the form of snow. Cumulative precipitation for March was just shy of average. Inflows, as measured using the 8-week moving average have been reading in the 10-percentile range but, with the recent rain and snow, that statistic has turned upward and that trend should continue with the expected rain and snow in the near term. Although snowpack has increased recently, it is still less than half of the snow we had at this time last year. Snowpack is averaging 62% of normal in the Tolt River Watershed and 58% of normal in the Cedar River Watershed, which is a 10% improvement for both watersheds as compared to one week ago. Currently, 2010 is the third worst Cedar basin snowpack since 1996, behind 1996 and 2005. Tom said that SPU expects to provide supplemental flow levels for sockeye outmigration through the period ending on April 15th. Estimated unregulated flows were higher than actual flows over the last month due to the capture of precipitation and snowmelt to refill the reservoir.

SPU has also been filling Lake Youngs to the normal summer fill level recently, but that effort has been truncated. A problem phytoplankton, *Cyclotella sp.*, may be starting to bloom in Lake Youngs. This organism develops filamentous appendages, which causes cells to clump together, clogging filters and small apertures in the water treatment and distribution system. To minimize impacts to the system and SPU customers, the Utility may deliver diverted water to the distribution system directly from Landsburg, bypassing Lake Youngs. Customer and distribution system demands vary diurnally. In an effort to minimize the effects of this diurnal use pattern on stream flows below Landsburg, operators will attempt to maintain Landsburg diversion at a steady rate and divert excess water into Lake Youngs during diurnal periods of low water system demand. To ensure sufficient storage capacity to accept these additional flows, Lake Youngs may be held below its normal maximum elevation for the next 4 to 6 weeks.

In the last month, we met all our downramping rate obligations and guaranteed flows in the Cedar River. Recent consumption levels have been between 103 and 105 MGD, which is lower than 2009 consumption rate and all the average consumption rate lines shown on the consumption graph. Cumulative diversions are closely

tracking those from last year. A SEAFM forecast, assuming current initial conditions and the provision of supplemental outmigration flows through mid-April, indicates that the reservoir will refill to 1563' given normal or 1 in 4 dry conditions. The 1 in 10 dry is predicted to fill to 1562' but that elevation will be short-lived due to the need for releases to maintain flows below Landsburg at levels to meet the IFA minimum and supplemental flows. Tom said that SPU would likely be able to provide both summer supplemental blocks if conditions between now and mid-summer do not become extremely dry.

Lake Washington: Lynne reported that the current lake elevation is 20.5'. Recently, the Corps adjusted the lake level to reduce shoreline impacts due to high wind conditions. Smolt flumes will be installed next week and spillway 5 is spilling to attract steelhead to the ladder entrance.

Ken provided a description of conditions in the Green River Basin and a status report for the Howard Hanson Dam. Ken said that the Green Basin has received normal precipitation this year but not very much in the form of snow. Inflows are low and the snowpack is ranging between 50 to 65% based on three SNOTEL sites. With the recent precipitation, snow accumulations at 3000' have gone from 0 to 25% of average. The Corps plans to target a refill elevation of 1167', which represents 50,000 acre feet of storage that is split between instream resources (30,000 acre feet) and Tacoma water supply (20,000 acre feet). The actual reservoir storage capacity is much higher. Ken is confident the Corps will fill the reservoir to 1167'.

Ken went on to inform the IFC regarding the dam safety situation. In January of '09, the Corps filled the Howard Hanson Reservoir to 1189', which was an historical high for the reservoir. During the record high pool, the Corps became concerned after the discovery of two depressions on the right abutment, increased water levels in groundwater monitoring wells, and the appearance of sediment-laden water entering the abutment drainage tunnel. Based on this information, the Corps became concerned about the integrity of the right abutment at elevated reservoir levels. The Corps has recently performed interim risk reduction measures including the installation of a grout curtain within the right abutment to mitigate seepage issues within the abutment. The Corps will run tests this spring while the reservoir is being filled to elevation 1167' to study the effectiveness of the grout curtain. The Corps is currently performing a dam safety modification study to develop a permanent repair. The options for a permanent repair have not yet been determined but could include a concrete cut-off wall, a low permeability cover on the abutment, or an extension of the current grout curtain.

Fish Update: Karl reported that he and Dave Smith from WDFW had identified 22 trout redds and no steelhead redds during redd surveys that began on March 1st.

Rand said WDFW trap personnel reported that approximately 8-10 million naturally produced sockeye fry are expected to migrate to the lake this year based on the most recent information. Chinook fry outmigration has decreased recently as Chinook emergence is nearly complete. Chinook parr should begin emigrating in late April and continue into June. Rand mentioned that SPU is considering foregoing forebay cleaning this year due to the low flow regime and a lack of sediment and organic matter trapped above Landsburg Dam.

Forecasts and Water Supply Outlook: Larry informed the IFC that another storm was coming starting tonight and lasting through Friday. The storm is expected to provide 1-7" of snow new snow tonight and up to 3' by Friday night. Currently, the snow level is at 4500' but that will change to 2000' by tomorrow morning and 500' by Friday morning. The weekend is expected to be dry but cool with another small storm on Monday that could provide up to 6 additional inches of snow. Next week, we should experience normal temperatures but less precipitation than the recent patterns. Larry expects the El Nino conditions to taper off to a more neutral pattern for summer that should continue through next winter. That means it is more likely that we will experience rainstorms that are more conducive for large flood events than what is typically experienced during El Nino years.

VI. Supplemental Studies:

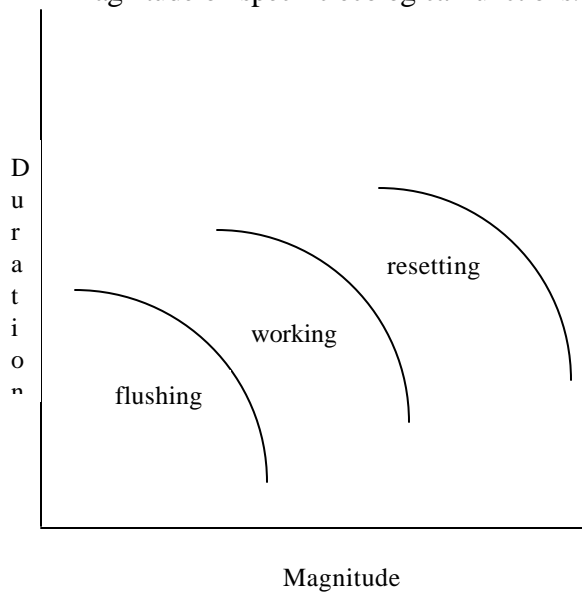
IHA analysis: Chris Konrad advised that the IFC might want to write a summary paper to capture what has been accomplished to date. The IFC liked the idea and suggested Rand would be the best person to lead the effort. The report would include such topics as: 1) why the study was done; 2) what data sets were developed, how they were developed and their limitations; 3) the biological basis for the parameter used; 4) revisions to the modeling thresholds; 5) review of what was learned with surprises and meaningfulness; 6) outline of management decisions that will be effected by the lessons of the study; and 7) any follow up questions that were generated.

Peak Flow Adaptive Management Study: The IFC discussed the frameworks developed in the last meeting. One idea was to add frequency to Magnitude and Duration in the matrix below.

	Magnitude	Duration
Resetting		
Working		
Flushing		

The IFC also discussed the need define all terms used in the matrices developed at the last meeting.

The group discussed the figure below and indicated that it may be more accurate and helpful to depict the lines as bands of differing widths. In addition to portraying different duration/magnitude combinations for “flushing”, “working” and “resetting flows”, a similar approach could be used to portray the effects of flow duration and magnitude on specific ecological functions.



VII. Agenda Items for Next Meeting:

- 1) Discussion of possible funding for future IFC studies from the locks water usage efficiency studies and dead storage studies.
- 2) Roger Peters' Mesohabitat results.
- 3) Nick Gayeski to present Chinook Otolith analysis results.

VIII. Meeting adjourned at 12:45 PM

